thyroid treatment was instituted with marked improvement in the symptoms, but diabetes intervened and it was discontinued, not because it was considered responsible for the intervening condition, but to eliminate it as a possible factor. The case was very carefully studied as to its metabolism; the child improved greatly in its mental symptoms as the diabetes progressed, but finally died in coma and convulsions. The author discusses the case with special reference to the effect of the diabetes on the myxedema, and considers the case as absolutely unique. Diabetes mellitus itself is not so rare in children as was formerly thought, but its occurrence in myxedema with the apparent marked effect on the latter condition here observed has not been reported heretofore. In a supplementary note he refers to two somewhat similar cases reported by Dr. Alfred Gordon in *American Medicine,* Feb. 6, 1904, but he does not agree with the optimistic Gordon views as to the prognosis in such cases.

THE CONDITION OF FEAR IN CARDIAC DISEASE. W. R. Denton, Jr. (Journal A. M. A., February 18).

Incited by a statement that all cases of alienation showing apprehension revealed cardiac diseases, the author examined the twenty-five most recent admissions in the Sheppard and Enoch Pratt Hospital, and some twenty cases in the Johns Hopkins Hospital. He concludes that the cardiac lesion is not the primary factor in causing the associated state of apprehension. What we may call, for want of a better term, the idosyncrasy of the patient, is largely responsible for apprehension associated with cardiac lesions. In neurasthenic types a lack of vagus control is an important etiologic factor. Our knowledge of the subject is still not yet exact, and he asks the co-operation of clinicians in the investigation.

DELIRIUM AS A SYMPTOM OF HYSTERIA. Theodore Diller (Journal A. M. A., March 4).

While it is well known, writes Dr. Diller, that delirium constitutes the final phases of classic attacks of major hysteria, the subject of insanity in relation to hysteria seems to be in a state of more or less confusion or doubt. This, he believes, is due to the fact that these cases are not studied in their whole course by the same men. The family physician sees the earlier symptoms and the asylum physician the later manifestations. Diller says that some authors call certain mental symptoms hysterical when they are mild or of short duration, but apply the designation "insanity" to the same symptoms when they are prolonged beyond a certain time or when they become more striking in type. He quotes at some length from Janet on the subject of delirium as a symptom of insanity, and reports several illustrative cases. In one case a diagnosis of typhoid was made, but Diller considered it a secondary infection, favored by the condition of the patient. In all the cases reported there was more or less marked neurotic disturbance or shock, and he considers that the diagnosis of hysteria was justified.

PARALYSES OF THE BRACHIAL PLEXUS. Henri Grenet (Gazette des Hôpitaux, Sept. 24, 1904, No. 106, and October, 1904, No. 112).

In these papers the author gives a full account of the paralyses of the brachial plexus. After an anatomical description of the formation of the plexus, a clinical division is made into paralyses from lesions of the roots and of the plexus proper.

Etiology. This is classed as traumatic and nontraumatic.

I. Traumatic.

1. Wounds of the supra-clavicular region, caused in various ways; sometimes the resulting paralysis is not caused directly by the

wounding agent, but by resulting inflammation, especially of bones.

2. Other forms of trauma usuallv affecting the roots; these are falls upon the shoulder, injury by weights falling on the shoulder, prolonged maintenance of certain positions of the arms, such as behind the head during sleep and in the administration of anesthetics, dislocation of the shoulder and manipulations in reduction, and notably in difficult labors (Duchenne's obstetrical palsy).

II. Non-traumatic.

1. After some infectious fever.
2. Apoplectiform neuritis of Remak and Dubois.
3. Diseases of the meninges and vertebral column.
4. Tumors in the supra-clavicular region.
5. Aneurysms of sub-clavian and carotid.
6. Supernumerary rib.

Pathogeny of the paralyses caused by indirect violence.

Many explanations have been given of the mechanism of production. In dislocation it is said that the plexus may be directly compressed by the head of the humerus. Against this view it is objected that the head of the bone is not always in contact with the nerves, and that from the position of the displaced humerus we should expect paralyses of the nerves of distribution and not of the plexus itself. A violent blow on the shoulder is thought to cause compression of the plexus between the clavicle and the first rib. Evesque suggests a double mechanism; first, the head of the humerus forcibly flattens the plexus against the ribs, causing a contusion; secondly, the clavicle is elevated and compresses and contuses the roots against the transverse processes. In violent blows on the scapula this bone is depressed and the plexus is thought to be compressed between the first rib and the clavicle; the same compression might occur when the arm is elevated. Others, however, maintain that in elevation of the arm the roots are compressed between the clavicle and the transverse processes of the last cervical and first dorsal vertebrae. The obstetrical palsy has been said to result from compression of the nerves at the point of Erb by the forceps. A more probable explanation of this variety of paralysis, and one also applicable to other forms, is that it is caused by forcible inclination of the head to the opposite side at the same time as there is depression of the shoulder. This view was put forward by Fieux from experimental evidence, and has been adopted and amplified by Duval and Guillain, who state that forcible depression or elevation of the shoulder may cause rupture of the roots of the plexus, whilst less severe injury may cause merely tension or partial rupture.

Pathological Anatomy. The roots have been found torn away from the cord; atrophy of the cells of the ventral coruna has been found; the 6th and 7th roots have been found embedded in inflammatory tissue at the level of the transverse processes; the 5th root has been found ruptured. Déjerine has found a hemorrhage in the sheath of the plexus proper in a case of apoplectiform neuritis.

Symptoms. 1. Total Radicular Paralysis.

(*a*) Motor. Total flaccid monoplegia, the arm hanging helplessly by the side and in the position of internal rotation, with some elevation of the shoulder, attributed either to instinctive contraction of the upper part of the trapezius or paralysis of its lower part (Guillemot). The electrical reactions are altered.

(*b*) Sensation. Anesthesia of all forms of sensation, or to pain and temperature alone, occupying usually the hand and forearm, or in addition the outer and posterior surface of the arm. The internal surface is sentient, since the cutaneous nerves of the plexus which supply it also receive branches of the 2nd and 3rd dorsal. There may, however, be disseminated islands of anesthesia in this region.
(*c*) Oculo-pupillary signs. Narrowing of the palpebral fissure and contraction of the pupil, if the lesion is situated proximal to the point of exit of the white ramus of the first dorsal nerve.
(*d*) Trophic and vasomotor disturbance.

2. Superior Radicular Paralysis (Duchenne-Erb). Limited to the 5th and 6th cervical nerves. A paralysis originally total may be finally limited to these nerves, or they may from the first have only been affected. The muscles constantly paralyzed are the deltoid, infraspinatus, biceps, brachialis anticus and supinator longus. Other muscles may be paralyzed. (See the recent works of Wilfred Harris and Kennedy.)

Sensory anesthesia is usually absent, if sought for some time after the onset, but is present at first. Vasomotor and trophic disturbances are occasionally found.

3. Inferior Radicular Paralysis. Results from a lesion of the 7th and 8th cervical and 1st dorsal nerves. The motor paralysis is in the muscles supplied by the outward median nerves, producing weakness and atrophy of the small muscles of the hand. Anesthesia is the rule occupying the internal part of the hand and forearm. Oculo-pupillary symptoms are characteristic, but may be absent. When present they show that the lesion is within the vertebral canal. Trophic and vasomotor disturbances are more common than in the superior radicular paralysis.

4. Complex Radicular Paralysis. A partial lesion giving a more irregular distribution of paralysis, motor or sensory, may occur. In such cases, if there is paralysis present, either of the serratus magnus, supra- or infra-spinatus muscles or oculo-pupillary symptoms, the lesion is radicular. If these signs are absent, it may be impossible to localize the site of the lesion.

5. Uniradicular paralyses affecting either the 5th cervical or 1st dorsal have been described by Charcot and Farquhar Buzzard.

6. Purely motor paralysis may occur, since the evidence shows that the anterior roots are more readily injured than the posterior.

7. Purely sensory paralyses are very rare. Raymond has recorded an example in which a hemipachymeningitis invaded only the posterior roots and brachial plexus. A lesion limited to one or two roots gives rise to either very slight anesthesia or none at all.

Paralysis of the Plexus Proper.

The resulting paralysis either resembles those of radicular origin or follows the distribution of the peripheral nerves. A paralysis is radicular if oculo-pupillary symptoms are present, or if the serratus magnus, supra- or infra-spinatus muscles are paralyzed, otherwise its exact site cannot be indicated.

Observations on the Forms of Paralysis due to varying etiology.

1. Traumatic. Here the paralysis is sudden. Spontaneous pain may be present at first, but tends to disappear. The paralysis may at first be total, but later limits itself to upper or lower type. The anterior roots are usually more injured than the posterior, and sensory paralysis tends to disappear.

2. Obstetrical. Oculo-pupillary symptoms may be present, but are usually absent. A more severe lesion follows breech than head presentations.

3. Intra-vertebral Compression. Usually from pachymeningitis, often tuberculous, tumors, etc. Violent pain often precedes the paralysis for a long time. Later symptoms of pressure on the cord appear.

4. From nereditary syphilis, either of the upper or lower type. They are cured by mercurial treatment, and are due to meningo-myelitis

5. From extra-vertebral compression. Mode of onset varies according to the nature of the compressing agent. When this is an aneurysm Duval and Guillian consider that the paralysis is not due to simple compression, but to the inflammatory formation around the walls of the aneurysm, and that hence the paralysis may be permanent even if the aneurysm is in process of healing.

6. Apoplectiform Neuritis. The onset is necessarily sudden.

Diagnosis. In infants, syphilitic pseudo-paralysis, which appears some months after birth, osteo-myelitis and infantile paralysis have to be considered.

In adults, the diagnosis of hysterical brachioplegia may be difficult, since it has been considered that this may occur even when unassociated with anesthesia. Cortical lesions are not likely to be mistaken for those of brachial plexus, and are distinguished by the presence of conartcture, exaggerations or reflexes, absence of wasting and of sensory disturbance.

Of spinal disease, acute anterior poliomyelitis, syringomyelia and hematomyelia must be considered; the latter is rarely limited enough to produce only a brachial monoplegia. Sometimes a violent tearing of the roots may give rise to hematomyelia above and below the radicular territory, and then analgesia and thermoanesthesia would be found.

Amyotrophy from joint disease can be excluded by the history and the absence of altered electrical irritability associated with increase in the tendon-jerks.

Prognosis. This varies greatly, according to the violence of trauma.

Destruction of the cells of the ventral horn may follow, and even a limited hemorrhage into the cord. The condition of the electrical reactions gives some indication of the probable duration of the paralysis.

Treatment. Massage, electricity and hydropathy are required. Surgical interference may be necessary. [The deformity produced by paralyzed muscles must be corrected by the use of a sling to support the forearm when the biceps group is paralyzed, or by a light metal splint applied to the anterior surface of the forearm, reaching as far as the end of proximal phalanges and bent backwards to support the hand when the extensors of the wrist and fingers are paralyzed. By thus removing tension from the weakened muscles recovery is largely aided.]

W. B. WARRINGTON.

NEURO-FIBRILS AS DISPLAYED BY THE METHODS OF PROF. RAMON-Y-CAJAL. L. Azoulay (La Presse Médicale, July, August, September and October, 1904).

Dr. Azoulay's review of Prof. Ramon-y-Cajal's observations shows, apparently, that the presence of a neuro-fibrillar network in the interior of nerve cells has at last been definitely established. The earliest stages of its growth have not been ascertained, but there seems to be little doubt that it commences to grow first in the dendrites, and progresses thence into the interior of the cell body, where it evidently differentiates into a series of primary and secondary fibrils. The former are most numerous in the perinuclear network, and the latter in the more peripheral parts of the cell, though they are found in all parts, in-